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The President, DR. CHARES L. DANA in the Chair

SIGNIFICANCE OF THE OCULAR SIGNS AND SYMPTOMS OF DEMENTIA PRÆCOX

By H. H. Tyson, M.D., and L. Pierce Clark, M.D.

This preliminary report covered a period of study of over 100 cases from private practice, clinics, and the metropolitan asylums. Definite changes were said to be invariably found. The fundus changes, as seen clinically, were divided into three stages in the order of their occurrence: First stage, congestion of the discs, hyperemia and edema, dilated veins, contracted arteries and blurring of the edges of the discs, all of varying degrees, constituting a low grade perineuritis of the optic nerve. Second stage, congestion of the nasal side with temporal pallor of discs, dilated veins and contracted arteries. Third stage, pallor of discs, dilated veins and contracted arteries, constituting anemia and partial or complete atrophy of the optic nerve.

All forms of dementia præcox were under study. The more rapidly deteriorating forms showed the most marked changes. The cases embraced both users of alcohol and tobacco, and abstainers. Theoretically, the changes were probably due to a vascular toxin from liver or intestinal auto-infective origin. A vascular alteration with edema took place, resulting in disturbances of nutrition and slow degeneration of the nerve fibers. Cases in the first stage had shown fundus improvement under the usual treatment for intestinal auto-infective toxemias. Other eye symptoms universally found were enlarged pupils, negative sensory reflex, negative psychic reflex, negative Piltz reflex, diminished corneal sensibility and concentrically contracted visual fields. No other psychosis presented similar conditions. The findings should be found useful in differential diagnosis, to a certain extent in prognosis, and possibly in the study of the pathogenesis and pathology of dementia præcox.

Dr. Carl Koller said that years ago he had seen many cases of dementia præcox but had not examined them ophthalmoscopically. Lately he had examined such a case which presented a very striking ophthalmoscope picture, which however was very different from what Dr. Clark had described. The patient was a man of 31 years of age, had shown the symptoms of dementia for four or five years, and had been subjected to the usual treatment. About six weeks ago he contracted malaria and three weeks later began to complain of failing vision. Both optic discs were slightly edematous, the remainder of the retina being entirely clear. There were numerous hemorrhages in the background, involving both

arteries and veins, big and small alike. In the macula of the right eye there was a geometrically regular diamond-shaped patch, slightly raised, yellow in color, with very sharp outlines; it was hemorrhagic. But for this latter character it resembled the choroidal patches which are so common in the secondary stage of syphilis and whose seat is the anterior (mostly lower) segment of the eye. The anatomical locality concerned was evidently the choriocapillaris, and the shape of the patch bore most likely some relation to the distribution of the smaller arteries in that layer. The appearance of the disc also mostly resembled the low degree of neuritis found so very frequently (almost he might say constantly) in the secondary stage of syphilis. In the left eye the conditions were identical; only the diamond-shaped patch was very much smaller. In the right eye it was at least of the size of the disc, in the left its diameters were one quarter the size. The speaker said he was mostly inclined to consider this a syphilitic lesion.

Postscript: After three weeks of treatment of which injections with salicylate of mercury formed a part all these changes cleared up completely, leaving only vestiges of some granulation at the site of the patches. The vision which had been less than one fourth rose to normal in the left eye, and to three fourths in the right.

Dr Edgar S. Thomson said the capillary circulation of the normal nerve varied to such an extent that it was very difficult under certain conditions to say whether we had an atrophy or a hyperemia unless the condition was very marked. The speaker said that in the two cases shown by Dr. Clark he would be unwilling to say that a hyperemia was present now. The present appearance of the disc in these cases did not appear to him to be especially striking. In any case where we had a condition of the optic nerve which was suspicious of either hyperemia or atrophy, the central vision and the visual field should be carefully measured.

Dr. George W. Jacoby said that in addition to the ocular symptoms and the neuroretinitis, the important points were the analgesia of the cornea and the other symptoms mentioned. In this general connection the question arose whether we were willing to accept dementia præcox as an absolute clinical entity? If so, then these symptoms would be indicative of an organic brain affection rather than of a toxic state.

Dr. H. H. Tyson said that only high degrees of errors of refraction proved an appearance of slight optic neuritis and that among 109 cases examined, only about two per cent. showed high refractive errors. In many of the cases vision was slightly diminished, but in all there were marked limitations of the visual field. In one or two instances the atrophy of the optic nerve was very marked; in other cases the pallor might have been termed incipient atrophy. As regards an absolute diagnosis of atrophy of the optic nerve that could only be made by the microscope which of course was impossible under the circumstances. The clinical diagnosis of atrophy was based upon the recognized signs of pallor of the nerve, contracted arteries, some diminution in visual acuity and contracted visual fields.

In their series of cases they found only one with hemorrhages on and about the disk and from Dr. Koller's description of this case it so much resembles the one that Dr. Tyson saw, that he would not be surprised to discover that it was one and the same. But he did not consider the spot at the macula pathognomonic by any means. In other respects the case is quite representative of the congestive type.

In regard to the point made by Dr. Thompson about the visual acuity, he did not consider it in itself a reliable test at all. As we know, one may find normal vision in eyes showing marked fundus changes such as choked disk, etc. In making a diagnosis the entire eye symptom complex viz. anesthesia of cornea, contracted visual fields, enlarged pupil, negative psychic, sensory, and Piltz pupillary reflexes and the appearance of the disk described should all be considered and not merely the fundus alone.

A FAMILY TYPE OF COMBINED SCLEROSIS ASSOCIATED WITH GRAVE ANEMIA

By Charles L. Dana, M.D.

Dr. Dana had recently had under his care a patient in whom it might be said that pernicious anemia and combined sclerosis was a family disease. The patient was an unmarried woman, 58 years old, coming from old New England and Pennsylvania stock. She had lived a temperate and fairly healthy life, though subject rather easily to diarrheas, and having at times what Dr. Delafield termed "morning diarrhea." Very early in life she had a severe attack of dysentery, but had had no subsequent attack until eight years ago. She had other attacks seven, six, five and four years ago, but none since. Besides the dysentery, within the past eight years, she had had a distinct tendency to mild attacks of enterocolitis, and two years ago she was treated for a long time for this trouble, during which period she passed a great deal of undigested food and gas in her stools. Her physician detected an ulcer in the sigmoid flexure. She recovered from this, however and had been fairly well for nearly a year. Within the past six months she had noticed a peculiar numbness of the feet, with weakness and unsteadiness in walking, and a similar condition in the hands. When Dr. Dana first saw her, she had a decided pallor, with an almost yellowish tinge to the skin. She was rather thin, but not much more so than her ordinary habit. Subjectively, she felt fairly well excepting for the weakness and uncomfortable numbness of the extremities. She had an ataxic gait, and the Brauch-Romberg symptom. There was also some ataxia of the hands, so that she could not sew or do fine work with them, but she was able to write and dress herself. There was some general weakness of the extremities, but no distinct paralysis. The knee jerks were present, but there was no ankle clonus and no Babinski. While she complained much of the paresthesia, she had no actual cutaneous anesthesia. Examination of the patient's blood showed 3,200,000 red cells; 8,800 white cells and 66 per cent. hemoglobin. She had a curious and persistent inflammatory condition of the gums, which kept her mouth rather sore. Cultures made of this region by Dr. F. M. Huntton showed the ordinary microorganisms of the mouth, excepting that there were certain spirillæ. An examination of the stools made by Dr. Christian A. Herter showed indications of excessive putrefaction, with an abundance of the bacillus aerogenes capsulatus. There was an excess of hydro-bilirubin and skatol, with absence of indol. A second examination of the blood, made three weeks later, showed a further decrease of the red cells to 2,780,000, with a similar condition of corpuscles, excepting that there were no megaloblasts. The hemoglobin was reduced to 58 per cent.